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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,293	04/25/2000	Mrudula Kanuri	95-343	9755

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EXAMINER	
HARPER, KEVIN C	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/558,293	KANURI ET AL.	
	Examin r	Art Unit	
	Kevin C. Harper	2666	

-- Th MAILING DATE of this communication appears on the cover sh et with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 14-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-11 and 14-24* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 14, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callon et al. (US 5,251,205) in view of Tsuchiya (US 5,353,283).

1. Regarding claims 1-3 and 14, Callon discloses an integrated network switch (Figure 13, any one of items 502-506; col. 50, lines 65-68) having address tables and for determining whether a layer 2 packet includes layer 3 information (col. 57, lines 11-21; col. 51, lines 23-33), selectively performing layer 3 switching based on an inherent the layer 3 destination address in the packet (col. 51, lines 27-30), and selectively performing layer 2 switching based on the determined absence of the layer 3 packet information (col. 51, lines 25-26).

2. However, Callon does not disclose determining a presence of a subnetwork identifier within the prescribed layer 3 packet information, searching a first table for storing IP addresses for a corresponding layer 3 destination address, or selectively searching a second table configured for storing switching entries for respective subnetwork identifiers. Tsuchiya discloses searching a first table that stores switching entries for respective IP addresses for a corresponding destination address entry (col. 3, lines 11-14), and selectively searching a second table that stores switching entries for respective subnetwork identifiers for a corresponding subnetwork identifier entry (col. 3, lines 5-10) based on the absence of a corresponding switching entry storing the destination address. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to search for a matching destination address, and if not successful, search for a subnetwork identifier in the invention of Callon in order to route the data to the destination by finding the proper best-matching entry.

3. Regarding claim 20, in Callon the switching decision is based on a packet's priority (col. 45, lines 59-64 and col. 46, lines 11-20).

4. Regarding claim 22, in Callon a new MAC address is given which is associated with a router and based on the IP information in the header (col. 51, lines 29-30).

Claims 4-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callon et al. in view of Tsuchiya, as applied to claims 3 or 14 above, in further view of Yoshida et al. (US 5,987,524).

5. Regarding claims 4-6 and 15, Callon in view of Tsuchiya does not disclose comparing a source address with a table for storing subnetwork identifiers. Yoshida discloses verifying source IP and MAC addresses with addresses in a routing table and discarding packets with unidentified source IP and MAC addresses (Figure 8, step S51; col. 10, lines 10-22). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to verify the source IP address of a packet in the invention of Callon in view of Tsuchiya in order to provide access to authorized customers.

Claims 8-10, 16-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callon et al. in view of Tsuchiya, as applied to claims 3 or 14 above, in further view of Tappan (US 5,991,300).

6. Regarding claims 8-9, 16-17 and 21, Callon in view of Tsuchiya does not disclose dropping a packet when a TTL reaches zero or decrementing the TTL field prior to outputting a layer 2 packet. However, Tappan discloses both these features (col. 3, lines 38-41). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to decrement the TTL field in a packet or drop a packet when the TTL field reaches zero in the

invention of Callon in view of Tsuchiya in order to prevent a packet from having excessive delay or being forwarded in a continual loop.

7. Regarding claim 10, Callon discloses determining that the MAC address specifies a router and a destination IP address specifying a network node (col. 51, lines 29-30), and replacing the destination MAC address with a MAC address specifying the network node (col. 50, lines 59-62 and col. 51, lines 10-16 and 31-33).

8. Regarding claim 18, the limitations of this claim are addressed in the rejection of claim 15.

9. Regarding claim 19, the limitations of this claim are addressed in the rejection of claims 14-15.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Callon et al, in view of Tsuchiya and Tappan, as applied to claim 10 above, in further view of Bardet et al. (US 5,260,936).

10. Callon in view of Tappan does not disclose recalculating an IP checksum and MAC cyclic redundancy check. Bardet discloses recalculating IP checksums and MAC CRCs (col. 1, lines 57-61 and col. 2, lines 15-23). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to recalculate IP checksums and MAC CRCs in the invention of Callon in view of Tappan in order to prevent errors as a packet is forwarded to another node (Bardet, col. 1, lines 32-33).

Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callon et al. in view of Kadambi et al. (US 2001/0012294).

11. Regarding claims 23-24, Callon discloses a brouter for performing layer 2 and layer 3 switching. However, Callon does not disclose that the brouter is implemented as an integrated

network switch on a single integrated chip. Kadambi discloses a layer 2 and layer 3 switch that is integrated on a chip (Figures 1-2; para. 7 and para. 150, last 10 lines). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have switching functions integrated on a single chip in the invention of Callon in order to reduce the cost and complexity of network switching nodes or brouters (Kadambi, para 33, lines 17-31).

Allowable Subject Matter

. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eldenschink et al. (US 2001/0036161) discloses attempting to find a matching IP address and if not, finding a matching subnet for routing (para. 134).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:30 AM to 8:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 571-272-3174. The centralized fax number for the Patent Office is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only (applications must be associated with a customer number). For more information about the PAIR system, see portal.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin C. Harper

January 15, 2005

Seema S. Rao 1/21/05
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